

What is claimed is:

1. A method for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising the steps of:

- 5 (a) providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct media type;
- (b) determining a media type to be used in printing the image data;
- (c) selecting a calibrated tone-reproduction curve based on the determined media type; and
- 10 (d) applying the selected calibrated tone-reproduction curve to print the image data.

2. The method as claimed in claim 1, further comprising the step of:

- (e) determining a halftone to be used in printing the image data;
- 15 said step (a) providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;
- said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

20

3. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type;

(f) generating a tone-reproduction curve for each media type; and

(g) storing the generated the tone-reproduction curves;

5       said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

4. The method as claimed in claim 1, further comprising the steps of:

10       (e) performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

(f) generating a tone-reproduction curve for each media type and halftone type combination;

(g) storing the generated the tone-reproduction curves; and

(h) determining a halftone to be used in printing the image data;

15       said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

      said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

20

5. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type;

(f) generating a tone-reproduction curve for each media type calibration;

(g) comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

(h) selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media types that generated the tone-reproduction curve having similar characteristics;

(i) storing selected and non-grouped tone-reproduction curves; and

(j) generating a map to link a stored tone-reproduction curve to a media type, a stored tone-reproduction curve being capable of being mapped to more than one media type;

said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

6. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

(f) generating a tone-reproduction curve for each media type and halftone type combination calibration;

(g) comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

(h) selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that  
5 generated the tone-reproduction curve having similar characteristics;

(i) storing selected and non-grouped tone-reproduction curves; and

(j) generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being  
10 mapped to more than one media type and halftone type combination; and

(k) determining a halftone to be used in printing the image data;

said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

15 said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

7. The method as claimed in claim 1, further comprising the step of:  
printing of image data on a xerographic printing device using the selected calibrated tone-  
20 reproduction curve.

8. A system for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising:

a storage device to store and provide a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

an input device to select a media type to be used in printing the image data and to select a halftone to be used in printing the image data; and

a processor to select a calibrated tone-reproduction curve based on the selected media type and determined halftone type and to apply the selected calibrated tone-reproduction curve to print the image data.

9. The system as claimed in claim 8, further comprising:

a xerographic printing device using the selected calibrated tone-reproduction curve to print image data.

10. The system as claimed in claim 9, wherein:

said input device selects a halftone to be used in printing the image data;

said storage device provides a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

said processor selects a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

11. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

5       said calibration means generating a tone-reproduction curve for each media type;

      said storage device storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

10       12. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

      said calibration means generating a tone-reproduction curve for each media type;

      said input device selecting a halftone to be used in printing the image data;

15       said storage device storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

      said processor selecting a calibrated tone-reproduction curve based on the selected  
20   media type and selected halftone type.

13. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

said calibration means generating a tone-reproduction curve for each media type calibration;

5        said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

10        said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media types that generated the tone-reproduction curve having similar characteristics;

said storage device storing selected and non-grouped tone-reproduction curves;

said calibration means generating a map to link a stored tone-reproduction curve to a media type, a stored tone-reproduction curve being capable of being mapped to more than one media type;

15        said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

14. The system as claimed in claim 9, further comprising:

20        calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

5        said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

said storage device storing selected and non-grouped tone-reproduction curves;

10        said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

said input device selecting a halftone to be used in printing the image data;

15        said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

said processor selecting a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

20        15. The system as claimed in claim 9, further comprising:

an auto-segmentation circuit to determine a halftone to be used in printing the image data;



said storage device providing a plurality of calibrated tone-reproduction curves,  
each calibrated tone-reproduction curve corresponding to a distinct halftone type and  
media type combination;

said processor selecting a calibrated tone-reproduction curve based on the selected  
5 media type and determined halftone type.

16. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each  
calibration operation using a distinct media type;

10 said calibration means generating a tone-reproduction curve for each media type;  
and

an auto-segmentation circuit to determine a halftone to be used in printing the  
image data;

said storage device storing the generated the tone-reproduction curves and  
15 providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated  
tone-reproduction curve corresponding to a distinct halftone type and media type  
combination;

said processor selecting a calibrated tone-reproduction curve based on the selected  
media type and determined halftone type.

20

17. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

5        said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

10        said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

said storage device storing selected and non-grouped tone-reproduction curves;

said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

15        an auto-segmentation circuit to determine a halftone to be used in printing the image data;

said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

20        said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

18. A system for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising:

storage means for storing and providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type  
5 and media type combination;

first means for determining a media type to be used in printing the image data;

second means for determining a halftone to be used in printing the image data;

and

third means for selecting a calibrated tone-reproduction curve based on the  
10 determined media type and determined halftone type and applying the selected calibrated tone-reproduction curve to print the image data.

19. The system as claimed in claim 18, further comprising:

a xerographic printing device using the selected calibrated tone-reproduction  
15 curve to print image data.

20. The system as claimed in claim 18, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

20 said calibration means generating a tone-reproduction curve for each media type;

said storage means storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated

tone-reproduction curve corresponding to a distinct halftone type and media type combination;

said third means selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

5

21. The system as claimed in claim 18, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

10 said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

15 said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

said storage means storing selected and non-grouped tone-reproduction curves;

20 said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

said third means selecting a calibrated tone-reproduction curve based on the  
5 determined media type and determined halftone type.